

# UNTYING THE WEB OF NETWORK ELEMENTS: HOW THE FCC SHOULD REGULATE OPERATIONAL SUPPORT SYSTEMS

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Just as the weakest link in a chain determines the strength of the entire chain, so does the worst-performing component of a telecommunications service determine the quality of that service.<sup>1</sup>

## INTRODUCTION

It would be hard to get through the day without hearing about the revolution occurring in the world of telecommunications. Possibly the area where changes are most expected is the local telephone service arena ("local exchange"). While statutory and regulatory precedent have ruled that the era of a monopolized local exchange is dead, reality proves otherwise.

Following the implementation of the Telecommunications Act of 1996<sup>2</sup> ("1996 Act"), which sought to expand competition in the telecommu-

nications industry, no issue proved as surprisingly important to the development of local competition as operations support systems ("OSS").<sup>3</sup>

OSS are computer database systems used by communications service providers to store and provide information related to customer subscription, maintenance and repair, billing, service requests, and many other services.<sup>4</sup> OSS were not originally designed to be accessible via interconnection<sup>5</sup> by competitors<sup>6</sup> to an incumbent local exchange carrier<sup>7</sup> ("ILEC"). Instead, they were created for the ILEC's own internal use. The 1996 Act alters the way ILECs employ OSS by requiring them to provide competitive local exchange carriers ("CLECs")<sup>8</sup> nondiscriminatory access to their OSS.<sup>9</sup>

CLECs depend on OSS access for the same cus-

<sup>1</sup> Teleport Communications Group, *Model Performance Parity Measures for Facilities-Based Competition Introduction* (visited Feb. 20, 1998), <<http://www.tcg.com/tcg/regulate/whitePaper/mppm.html>> [hereinafter *Teleport Comm. Group*].

<sup>2</sup> See generally Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56 (1996).

<sup>3</sup> See Tim Wilson, *OSS Unbundling Issue Hampers RBOCs*, COMMUNICATIONS WEEK, Aug. 4, 1997, at T17. Problems with accessing OSS are causing concern among many communications service providers seeking to compete in the local exchange market.

<sup>4</sup> See *Petition for Expedited Rulemaking* of the LCI Int'l Telecom Corp. and Competitive Telecomm. Ass'n, RM 9109, PRT No DA97-1211 at 1 (May 30, 1997) [hereinafter *LCI CompTel Petition*]. An incumbent local exchange carrier's ("ILEC") OSS are key elements that provide vital service functions, including: pre-ordering, ordering, provisioning, maintenance, repair, billing, traffic data, real-time network control, and forecasting of customer needs.

<sup>5</sup> See GOVERNMENT INSTITUTES, GLOSSARY OF TELECOMMUNICATIONS TERMS 1-9 (1997). Interconnection is the connection between two telecommunications carriers' networks, or the connection of telephone equipment to the telephone network. *Id.* [hereinafter GOVERNMENT INSTITUTES].

<sup>6</sup> See IEC Web Proforums, *The Operational Support System Tutorial: Traditional Systems*, § 2 (visited Jan. 19, 1998) <<http://www.webproforum.com/manchester/topic02.html>> [here-

inafter IEC Web Proforums].

<sup>7</sup> See MICHAEL K. KELLOGG, ET AL., *Federal Telecommunications Law*, 858 (1992) [hereinafter KELLOGG]. Incumbent local exchange carrier ("ILEC") refers to carriers who served as providers of local exchange services, including BOCs and independent telecommunications carriers. *Id.* See also LCI CompTel Petition, 1. Applied herein, ILEC refers to any local exchange carrier subject to the obligations of 47 U.S.C. § 251(c), which imposes on ILECs the duty to negotiate with competitors, permit network interconnection, provide access to unbundled network elements, offer resale, notify interconnecting carriers of changes in network configurations, and provide for physical or virtual collocation of equipment. *Id.* Not included in the definition of ILEC are those ILECs with less than 2% of subscriber lines who have received an exemption, suspension, or modification of § 251(c) pursuant to 47 U.S.C. § 251(f). *Id.*

<sup>8</sup> See NEWTON'S TELECOM DICTIONARY 151 (13th Ed. 1998). Competitive local exchange carrier ("CLEC") refers to communications service providers who seek to compete on a selective basis for local exchange service, long distance, Internet, and various other entertainment services. *Id.* CLECs are likely to lease and resell local loops from the ILEC at wholesale rates. *Id.*

<sup>9</sup> See 47 U.S.C. § 251(c)(3) (1996). See also 47 U.S.C. § 251(c)(4) (1996).

tomers service and network management reasons that ILECs do.<sup>10</sup> However, this dependence is accentuated by CLECs' entry into the recently deregulated local exchange. As a result, many lack the time and financial resources necessary to construct a facilities-based communications network. Unable to wait to begin before providing local exchange services, CLECs interconnect with the ILEC's network and obtain access to its OSS. Unfortunately, CLECs' capacities to access an ILEC's OSS have encountered impenetrable barriers which further hamper local competition.<sup>11</sup> Ironically, these barriers also prevent regional Bell Operating Companies<sup>12</sup> ("RBOCs") from obtaining authority to provide in-region, interLATA services.<sup>13</sup>

Two years after the passage of the 1996 Act, legislators,<sup>14</sup> regulators, carriers, and other interested parties have become preoccupied with the lack of effective competition in the local exchange.<sup>15</sup> Such concerns appear well-founded given the unlikelihood that local competition will materialize if OSS remains to be subject to "delay, dilution, and degradation of access."<sup>16</sup>

This Comment proposes that the Federal Communications Commission ("FCC") adopt a set of rules governing CLEC access to OSS. First, the FCC should require ILECs to measure all pertinent OSS services. Second, the FCC should establish a set of default performance benchmarks. Third, the FCC must impose on ILECs monthly reporting requirements. Lastly, the FCC must impose penalties on those ILECs that fail to provide nondiscriminatory access to OSS.

Part I of this Comment looks at the problems

experienced by ILECs and CLECs in obtaining nondiscriminatory OSS access. Part II justifies the FCC's authority to regulate OSS. Part III analyzes and recommends performance measurement standards. Part IV recommends a reporting requirement policy for the FCC to follow. Part V recommends a method by which the FCC ought to impose monetary and injunctive penalties for not adhering to OSS access requirements.

## I. THE NEED TO GUARANTEE PARITY

### A. History of OSS

Telephone companies once employed large staffs and kept warehouses of paper records to monitor how telephone services were ordered, provided, maintained and repaired.<sup>17</sup> In the 1970s and 1980s specialized computer systems, referred to as operations support systems, were introduced to automate those functions and reduce labor costs.<sup>18</sup>

The history of telecommunications leading up to the passage of the 1996 Act is characterized by the monopolization of the local exchange by a sole service provider which was not required to open its network to interconnection.<sup>19</sup> As a result, OSS were designed specifically for an ILEC's sole use.<sup>20</sup> Over time technological developments led to improvements in OSS. However, the lack of OSS technological standards meant that ILECs were free to choose whether or not to install upgrades.<sup>21</sup> As a result, countless OSS systems have been developed that are both ILEC-and-service-specific, and not universally implemented by

<sup>10</sup> See *LCI CompTel Petition*, *supra* note 4, at 3-4.

<sup>11</sup> See Carolyn Hirschman, *Long in Coming: Issues Remain Unresolved as Telecom Act's Second Anniversary Nears*, TELEPHONY, Jan. 12, 1998, at 52 [hereinafter Hirschman, *Long in Coming*]. Competition in the local exchange market is progressing, albeit slowly. However, success depends on resolving serious problems, one of which is that "operations support systems still have many bugs." *Id.*

<sup>12</sup> See 47 U.S.C. § 153(4) (West Supp. 1998).

<sup>13</sup> See *id.* at § 271. To date no BOC has obtained authority to provide in-region, interLATA services pursuant to 47 U.S.C. § 271. However, on December 31, 1997, a Federal District Court Judge in Texas held Section 271 to be unconstitutional. Similarly, Senator McCain recently introduced legislation in the form of Senate Bill 1766, which seeks to repeal Section 271.

<sup>14</sup> See *Congress on Competition*, TELECOMPETITION REPORT, Feb. 26, 1998, at 3. Ten Members of the House of Representatives submitted statements in the Congressional Record supporting BOCs and blaming the FCC and CLECs for the lack

of competition in the local exchange market. *Id.*

<sup>15</sup> See Hirschman, *Long in Coming*, *supra* note 11, at 52.

<sup>16</sup> See Comments of Association for Local Telecommunications Services ("ALTS") to the LCI CompTel Petition, RM 9109, at ii (July 10, 1997). [hereinafter *Comments of ALTS*].

<sup>17</sup> See AT&T Public Policy, *OSS Interfaces and Competitive Local Telephone Service*, (visited Feb. 8, 1998) <<http://www.att.com/publicpolicy/oss.html>>.

<sup>18</sup> See *id.*

<sup>19</sup> See generally KELLOGG, *supra* note 7, at § 1.1. Prior to the 1986 Modified Final Judgment ("MFJ"), both local and long distance markets were monopolized by the Bell System. *Id.* at § 1.7. The MFJ divested AT&T from Bell so that it may provide long distance services. *Id.* MFJ then created seven Regional Bell Operating Companies ("RBOC" or "BOC") from the old Bell System to serve as *de facto* monopoly local service providers. *Id.*

<sup>20</sup> See IEC Web Proforums, *supra* note 6.

<sup>21</sup> See *id.* at § 3.

ILECs nationwide.<sup>22</sup> As the new entrants in the local exchange, CLECs face the challenge of interconnecting with the countless, complex OSSs employed by ILECs nationwide.<sup>23</sup>

## B. Enter Local Competition

The 1996 Act intended to open the local exchange to competition.<sup>24</sup> Understanding that local networks are not built overnight, Congress allowed CLECs to interconnect with an ILEC's network to provide services. Section 251 of the 1996 Act imposes interconnection requirements on all local exchange carriers.<sup>25</sup> Section 251(c), however, imposes specific interconnection requirements on ILECs.<sup>26</sup> Section 251(c)(3) requires that ILECs provide CLECs nondiscriminatory access<sup>27</sup> to their network elements on an unbundled basis.<sup>28</sup> Unbundled network elements ("UNEs") may then be combined together with either the ILEC's other services, or a CLEC's own network elements.

Congress recognized that not all carriers would have the equipment or capital to provide local services via their own network facilities.<sup>29</sup> It therefore designated resale as the other method that CLECs may employ to enter the local service. Section 251(c)(4)<sup>30</sup> requires ILECs to make their services available to CLECs for resale purposes.<sup>31</sup>

Following the passage of the 1996 Act, the FCC

embarked on filling in the details. Most importantly, the FCC promulgated the *Local Competition Order* which interpreted Section 251's interconnection requirements to infer that OSS is one of an ILEC's network elements to be made accessible through interconnection. In the *Local Competition Order*, the FCC subsequently listed those OSS services that an ILEC must make available: specifically, information about "pre-ordering, ordering, provisioning, maintenance and repair, and billing."<sup>32</sup>

## C. The Services

Pre-ordering is a multi-step process<sup>33</sup> during which a CLEC accesses a customer service record ("CSR") that details the name and address of an ILEC's customer.<sup>34</sup> The CSR also contains information regarding specific services to which the customer currently subscribes, and which additional services the end-user has not chosen to receive. This allows the CLEC to determine its marketing strategy so that it may convince a potential customer that it can offer a better array of services at a better value.<sup>35</sup>

A CLEC's pre-ordering success depends on two factors. First, given that pre-ordering occurs while the potential customer is on the line with the CLEC's sales representative, the CLEC must be able to access the CSR on a real-time basis.<sup>36</sup> Sec-

<sup>22</sup> See *In re Common Carrier Bureau Operations Support Systems Forum*, 40 (1997). ILECs have developed OSS systems that fail to work with CLECs' systems, but work well for its own uses. *Id.*

<sup>23</sup> See *id.* ILEC's proprietary interfaces are barriers to entry which raise costs and hinder efficiency. *Id.* Such interfaces also require a CLEC to develop multiple OSS computer interfaces for different ILECs, and force them to develop the capacity to alternate between those different interfaces. *Id.*

<sup>24</sup> See Hirschman, *Long in Coming*, *supra* note 11, at 52.

<sup>25</sup> See 47 U.S.C. § 251 (1996).

<sup>26</sup> See *id.* § 251(c).

<sup>27</sup> See *id.* § 251(c)(3). Non discriminatory access to an ILEC's network is often referred to as "parity." Parity infers that the ILEC provides to the CLEC the same quality of access to network elements and services that it provides itself.

<sup>28</sup> See GOVERNMENT INSTITUTES, *supra* note 5, at U-1 (1997). Unbundling is the separation of communications services that are associated with a larger service, i.e. unbundling operator and emergency services from the larger local services package. *Id.*

<sup>29</sup> See H.R. CONF. REP. NO. 104-458, at 117 (1996), reprinted in 1996 U.S.C.A.N. 128.

<sup>30</sup> See 47 U.S.C. § 251 (c)(4) (1996).

<sup>31</sup> See NEWTON'S TELECOM DICTIONARY, *supra* note 5, at R-18. Owners of communications networks do not utilize all the network's capacity. *Id.* Unused portions of the network

are offered to other carriers who purchase communications services from the network's owner which are then resold to additional customers. *Id.*

<sup>32</sup> See *In re Implementation of the Local Competition Provisions in the Telecomm. Act of 1996 and Interconnection Between Local Exchange Carriers and Commercial Mobile Radio Service Providers*, *Report and Order*, 11 FCC Rcd. 15754, para. 518 (1996).

<sup>33</sup> *Id.* See also *In re Application of Ameritech Michigan Pursuant to Section 271 of the Telecommunications Act of 1996 to Provide In-Region, InterLATA Services in the State of Michigan*, Evaluation of U.S. Dept. of Justice, at A-5 (June 25, 1997) [hereinafter *Dept. of Justice Evaluation of Ameritech MI*]. "Ameritech provides five. . .pre-ordering functions: customer service record retrieval; telephone number selection and reservation; due date selection and reservation; address validation; and feature availability." *Id.* Together, the services provide CLECs with the functionality to provide basic services to end-users. *Id.*

<sup>34</sup> See LCI CompTel Petition, *supra* note 4, at 9. Customer Service Record ("CSR") refers to profiles of specific customers that detail "name, billing and service addresses, billed telephone numbers, and identification of features and services on subscriber accounts." *Id.*

<sup>35</sup> See *id.* at 6.

<sup>36</sup> See *In re Application of SBC Communications Inc. et al. Pursuant to Section 271 of the Telecommunications Act*

ond, the CSR must be thoroughly accurate and up-to-date.<sup>37</sup> Otherwise, initiating and maintaining communications is hindered by a lack of access to accurate information which results in the competitor not appearing as efficient as the ILEC.<sup>38</sup>

Once the end-user agrees to change carriers, the CLEC requests (i.e. "orders") the ILEC to place the customer's service account in its name.<sup>39</sup> The CLEC at this time also orders any new services to be added to the customer's current batch of services, and requests and obtains a date for service initialization.<sup>40</sup> Ordering is provided via two distinct methods: manual and computer interface.<sup>41</sup> While the problems of these two methods also occur with pre-ordering, maintenance, and repair, their effects are felt the most during the ordering process.

Manual processing is least favored.<sup>42</sup> Once pre-ordering is complete, a CLEC normally transmits via facsimile its order to the ILEC so that it may enter the information into the OSS database.

Once the relevant data is entered, the ILEC then returns a form order confirmation ("FOC") to the CLEC indicating that the service order was completed.<sup>43</sup> Manual OSS is fraught with problems, including: lack of commitment by ILECs to match its own human resources staffing needs with CLEC increased order volume;<sup>44</sup> time to communicate orders;<sup>45</sup> lost orders; processing time; and human error.<sup>46</sup> These problems are further compounded as more orders are received, eventually creating a vicious cycle<sup>47</sup> that, in the end, has negative repercussions on the CLEC's ability to convince end-users that it can provide high quality local services.<sup>48</sup>

OSS access through an ILEC's computerized interfaces is the preferred ordering method.<sup>49</sup> Computerized OSS involves two separate computer interfaces, one between the ILEC and CLEC,<sup>50</sup> and another between the first interface and the ILEC's OSS.<sup>51</sup>

Once established, the computerized interface must be able to comply with the nondiscrimina-

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of 1996 to Provide In-Region, InterLATA Services in the State of Oklahoma, *Evaluation of U.S. Dept. of Justice*, Friduss Aff. at 10-11 (May 16, 1997). [hereinafter *Dept. of Justice Evaluation of SBC Communications OK*].

<sup>37</sup> See *id.*

<sup>38</sup> See *id.* Pre-ordering is especially important given that it is the first encounter between the CLEC and customer. *Id.*

<sup>39</sup> See *id.* at 11. Ordering may also include database updates pertaining to 911, directory listings, and repair, switch updates, and dispatch of a technician. *Id.*

<sup>40</sup> See *id.*

<sup>41</sup> See Dept. of Justice Evaluation of Application of Ameritech MI, *supra* note 33 at A-9. Some orders received via automated interfaces are either reviewed or edited manually prior to being processed by Ameritech's OSS. *Id.*

<sup>42</sup> See *id.* at A-15 (stating that manual processing is the weakest link in the chain of processing orders). *Id.*

<sup>43</sup> See *id.* at A-16-A-17.

<sup>44</sup> See *id.* at A-15.

<sup>45</sup> See *id.* at A-18. "[D]elays leave CLECs in limbo vis-a-vis their (potential) customers for significant periods of time, whereas Ameritech retail representatives receive comparable notifications of order errors almost immediately." *Id.*

<sup>46</sup> See *In re Common Carrier Bureau Operations Support Systems Forum*, 36, (1997). See also *Problems With OSS Interfaces Again Stymie BellSouth in Efforts to Provide In-region InterLATA Services*, TELECOMMUNICATIONS REPORTS, Feb. 9, 1998, at 1 [hereinafter *Problems With OSS Interfaces*]. The FCC determined that BellSouth failed to provide CLECs information regarding the status of their order that was substantially equivalent to what it provided itself. *Id.*

<sup>47</sup> See *In re Application of Ameritech Michigan Pursuant to Section 271 of the Communications Act of 1934, As Amended, to Provide In-Region, InterLATA Services in Michigan*, Memorandum Opinion and Order, 9 Communications Reg. (P&F) 267, 327 (1997) [hereinafter *Application of Ameritech MI*]. Ameritech was incapable of processing all of a CLEC's

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orders in a timely manner because the "... increased order volume triggered a simultaneous increase in the number of orders requiring manual processing, which severely strained Ameritech's available resources. Because Ameritech lacked the resources to handle this increase, orders were backlogged, delaying Ameritech's ability to deliver FOCs and order rejection notices, and requiring Ameritech to modify the due dates for those orders it was unable to process within the time-frame defined by the requested due date." *Id.*

<sup>48</sup> See *In re Common Carrier Bureau Operations Support Systems Forum*, at 88-89. LCI terminated its initial local services marketing campaign due to countless ordering problems with its ILEC. LCI believed that continuing its local services efforts with such obstacles would have a significant negative effect on its reputation as a long distance carrier. *Id.*

<sup>49</sup> See Dept. of Justice Evaluation of Ameritech MI, *supra* note 33, at A-2. Computerized OSS interfaces provide the advantage of processing speed, storage information density, and accuracy. *Id.*

<sup>50</sup> See *id.* See also *In re Application by BellSouth Corporation, BellSouth Telecommunications, Inc., and BellSouth Long Distance, Inc., for Provision of In-Region, InterLATA Services in South Carolina*, *Evaluation of U.S. Dept. of Justice* at A-5 (Nov. 4, 1997). [hereinafter *Application of BellSouth*] BOCs will need to automate the interaction of the interfaces with their OSS as it will be "critical to the meaningful availability of resale services and unbundled elements." *Id.*

<sup>51</sup> See *Application of BellSouth*, *supra* note 50, at A-4. The term "flow through" describes the process in which an order passes through the computer interface without any glitches or rejections. See also *Problems With OSS Interfaces*, *supra* note 46, at 1. The FCC rejected the 271 application partially because 97% and 81% of BellSouth's residential and business orders, respectively, flow through its own OSS databases, while only 40% of CLEC's customer orders flowed through in August 1997 and 54% in September. *Id.*

tory access standards of Sections 251 and 271 of the 1996 Act.<sup>52</sup> However, carriers understand that problems will accompany the implementation of an automated OSS.<sup>53</sup> CLECs need not tolerate the following problems which are representative of the ills currently affecting local competition: interface incompatibility;<sup>54</sup> late record reporting;<sup>55</sup> interfaces not being ready to support OSS requests;<sup>56</sup> high rejection rates due to universal service ordering codes ("USOCs");<sup>57</sup> poor flow through rates;<sup>58</sup> and, lengthy ordering time intervals.<sup>59</sup>

The CLEC must be able to bill its customer in a timely and accurate manner.<sup>60</sup> To do so, the ILEC must first deliver billing records to the CLEC who then conveys its own bill to the customer. The ILEC's billing records must be accurate so that the CLEC can correct potential conflicts without adversely affecting customer service. Billing errors are especially troublesome given their effect on an end-user's perception of CLEC service quality. Double billing is likely to result where an ILEC does not update its OSS to indicate that a specific end-user changed carriers.<sup>61</sup> Late or missed billing periods may also occur, especially where an ILEC sends inaccurate billing records to the CLEC, the errors are corrected, and then the end-user is billed.<sup>62</sup>

The CLEC depends on the ILEC to monitor services to determine if the services are operational and, where they are not, to repair them in a timely fashion.<sup>63</sup> Other maintenance and repair issues include the amount of time an ILEC requires to make repairs and the frequency of such

troubles.<sup>64</sup>

## II. LEGAL JUSTIFICATION FOR FCC ACTION ON OSS

### A. FCC Has Congressional Authority to Promulgate Rules on OSS

According to *Chevron v. Natural Resources Defense Council, Inc.*, the FCC must have explicit or implied authority from Congress to regulate access to OSS.<sup>65</sup> Based on the analysis detailed below, the FCC has the requisite authority to require performance measurement standards, reporting requirements and impose penalties.

### B. Title I

Congress delegated to the FCC broad authority under Section 1 of Title I of the Act to regulate interstate and foreign communications by wire and radio.<sup>66</sup> Congress did this to ensure that a national wire and radio network would make communications services available to all people of the United States. While communications originating on the local exchange might appear intrastate in nature, they often terminate across state boundaries. This fact qualifies the call as interstate, and thereby falls within the FCC's implied or express authority under Section 151.<sup>67</sup>

### C. Section 251

The 1996 Act demonstrates Congress' under-

<sup>52</sup> See also *Problems With OSS Interfaces*, *supra* note 46, at 1. BOCs are obligated to provide automated communications for OSSs and ensure that they are analogous to the BOC's retail operations. *Id.*

<sup>53</sup> See *In re Common Carrier Bureau Operations Support Systems Forum*, at 78. OSS may appear perfect on the drawing board but it is a guarantee that problems will ensue. *Id.* But see *id.* at 119. CLECs are accepting automated systems' imperfections "because the manual processing is not an acceptable alternative." *Id.*

<sup>54</sup> See *LCI CompTel Petition*, *supra* note 4, at 34.

<sup>55</sup> See *id.* at 36.

<sup>56</sup> See *id.* at 37.

<sup>57</sup> See *infra* note 211. Generally, USOCs are the codes used by an ILEC to identify services and features. The codes subsequently appear on the customer service records that the ILEC provides CLECs. *Id.*

<sup>58</sup> See *Problems With OSS Interfaces*, *supra* note 46, at 1.

<sup>59</sup> See , Comments of WinStar Communications, Inc., ") to the LCI CompTel Petition, RM 9109 at 5 (July 10, 1997).

<sup>60</sup> See *LCI CompTel Petition*, *supra* note 4, at 6.

<sup>61</sup> See *Dept. of Justice Evaluation of Ameritech MI*, *supra* note 33, at n17. Double-billing is the most serious problem related to Ameritech's OSS. *Id.*

<sup>62</sup> See Local Competition Users Group, Service Quality Measurements, Version 6.1, 13 (Sept. 26, 1997). [hereinafter *LCUG Service Quality Measurements*].

<sup>63</sup> See *LCI CompTel Petition*, *supra* note 4, at 6.

<sup>64</sup> See *LCUG Service Quality Measurements*, *supra* note 62, at 10.

<sup>65</sup> See *Chevron v. Natural Resources Defense Council, Inc.*, 467 U.S. 837, 842-43 (1984). *Chevron* requires a reviewing court to (1) determine if Congress spoke on the issue of the rulemaking and if so, (2) to determine whether the rule contradicts Congress' express or implied intent. *Id.* If Congress did not authorize the FCC to rule on OSS, the court considers whether the agency's rule is premised on a reasonable construction of the statute. *Id.*

<sup>66</sup> See Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56, 47 U.S.C. § 151 (1996).

<sup>67</sup> See *id.*

standing that local exchange networks are not built overnight.<sup>68</sup> Until they are, CLECs seeking to offer telecommunications services may interconnect with an ILEC to resell the ILEC's services or combine its own services with an ILEC's Unbundled Network Elements ("UNEs"). Section 251 promulgates the rules requiring ILECs to interconnect between CLEC and ILEC via resale<sup>69</sup> and UNEs.<sup>70</sup>

Section 251(c)(3) requires ILECs to provide a requesting carrier "nondiscriminatory access to network elements on an unbundled basis."<sup>71</sup> It further requires that an ILEC provide UNEs "on rates, terms, and conditions that are just, reasonable, and nondiscriminatory."<sup>72</sup>

Section 251(c)(4) imposes on an ILEC the duty to make its network available for a CLEC to repackage its services on a resale basis.<sup>73</sup> 251(c)(4)(b) also precludes the ILEC from prohibiting and imposing any "unreasonable or discriminatory conditions or limitations on, the resale of telecommunications service[s]."<sup>74</sup> The FCC determined in the *Local Competition Order* that OSS "fall squarely within the definition of network element."<sup>75</sup> The FCC also ruled that access to OSS falls within the scope of indiscriminate access to resale services under 251(c)(4).<sup>76</sup>

While the *Local Competition Order* largely was overruled in *Iowa Utilities Board v. FCC*,<sup>77</sup> the court upheld the FCC's interpretation of Section 251 as it applies to OSS.<sup>78</sup> The court specifically noted that the term "network element"<sup>79</sup> includes "the technology and information used to facilitate or-

dering, billing, and maintenance of phone service - the functions of operational support systems."<sup>80</sup>

The court also supported the FCC's interpretation of the definition of "unbundled element."<sup>81</sup> The court found that "information sufficient for billing and collection" related to the "features, functions, and capabilities" which are used in the commercial offering of telecommunications services to the public by computer software and hardware that includes OSS.<sup>82</sup>

#### D. Section 271

The 1996 Act conditions Bell Operating Company (BOC) entry into interLATA on compliance with Section 271 of the Act.<sup>83</sup> There are two methods of gaining 271 authority: 271(c)(1)(A) and 271(c)(1)(B). Subsection (A) requires the BOC to prove that it had not received any requests for interconnection within three months prior to requesting 271 authority.<sup>84</sup> So far, the FCC has yet to review an Section 271 application under this option.

271(c)(1)(B) is the rule under which most BOCs apply for 271 authority. A BOC must demonstrate its compliance with the section's 14 point checklist to prove that it faces irreversible, facilities-based competition in its region.<sup>85</sup>

The following requirements taken from the Section 271 checklist provide further proof that the FCC retains authority over OSS. Section 271(c)(1)(B)(i) requires BOC compliance with Section 251's interconnection requirements.<sup>86</sup>

<sup>68</sup> See *In re Implementation of the Local Competition Provisions in the Telecommunications Act of 1996*, CC Docket No. 96-98, 11 FCC Rcd. 15499, paras. 6-15 (1996) [hereinafter *Local Competition Order*].

<sup>69</sup> 47 U.S.C.A. § 251(c)(4) (West Supp. 1998). "[N]ot to prohibit, and not to impose unreasonable or discriminatory conditions or limitations on, the resale of such telecommunications service." *Id.*

<sup>70</sup> 47 U.S.C.A. § 251(c)(3) (West Supp. 1998). Stating that there is a "[d]uty to provide nondiscriminatory access to network elements on an unbundled basis at any technically feasible point on rates, terms, and conditions that are just, reasonable, and nondiscriminatory." *Id.*

<sup>71</sup> *Id.*

<sup>72</sup> *Id.*

<sup>73</sup> See 47 U.S.C.A. § 251(c)(4) (West Supp. 1998).

<sup>74</sup> See *id.* § 251(c)(4)(b).

<sup>75</sup> *Local Competition Order*, *supra* note 68, at 15763.

<sup>76</sup> *Id.* "We conclude that, under any of these interpretations, operations support systems functions are subject to the nondiscriminatory access duty imposed by section 251(c)(3), and the duty imposed by section 251(c)(4) to provide resale services under just, reasonable, and nondiscriminatory terms

and conditions." *Id.*

<sup>77</sup> See generally *Iowa Util. Bd. v. FCC*, 120 F.3d 753 (8th Cir. 1997).

<sup>78</sup> See *id.* 120 F.3d at 808.

<sup>79</sup> 47 U.S.C.A. § 153(29) (West Supp. 1998). A 'network element' is a "facility or equipment used in the provision of a telecommunications service." *Id.* The term also includes "features, functions, and capabilities that are provided by means of such facility or equipment, including subscriber numbers, databases, signaling systems, and information sufficient for billing and collection." *Id.*

<sup>80</sup> *Iowa Util. Bd.*, at 808.

<sup>81</sup> See *id.* at 809.

<sup>82</sup> See *id.*

<sup>83</sup> See 47 U.S.C.A. § 271 (West Supp. 1998).

<sup>84</sup> See *In re the Application of BellSouth Corporation, et al.* Pursuant to Section 271 of the Communications act of 1934, as amended, To Provide In-Region, InterLATA Services in South Carolina, *Memorandum Opinion and Order*, 13 FCC Rcd. 539, 543 (1997). [hereinafter *Application of BellSouth SC*].

<sup>85</sup> See *id.*

<sup>86</sup> See 47 U.S.C.A. § 271(c)(2)(B)(i) (West Supp. 1998).

Section 271(c)(1)(B)(ii) requires provision of nondiscriminatory access to network elements according to Section 251(c)(3).<sup>87</sup> Section 271(c)(1)(B)(xiv) requires proof of indiscriminate access to resale facilities, which thereby requires access to OSS. Lastly, as indicated immediately below, the FCC has authority subsequent to Section 271(d)(6) to penalize BOCs via fines and injunctive relief for not complying with both 251 and 271 obligations.

Prior to providing in-region interLATA service, a BOC must demonstrate its compliance with the relevant state public utilities commission ("PUC"), Department of Justice, and FCC. Both the PUC and Department of Justice then issue reports which the FCC may consider, but need not depend, in writing its final order.<sup>88</sup> In conclusion, the FCC's 271 jurisdictional obligations indicate that it retains authority to require compliance with default performance measurements, reporting requirements, and impose penalties for not providing parity to OSS.

#### E. FCC Authority to Penalize for Lack of Compliance

The FCC retains jurisdiction throughout the Act to penalize ILECs who do not comply with their obligation to provide access to OSS on non-discriminatory, equal basis. Generally speaking, the FCC may invoke Section 205 to issue a "cease and desist" order against ILECs for violating the interconnection requirements in Sections 251 and 271.<sup>89</sup> Section 205 further permits the FCC to levy a fine of \$12,000 for each of those offense.<sup>90</sup> For reasons set out in Section V of this Comment, this option is not deemed to be the most effective measure, as an ILEC with considerable market power is likely to consider the fine to

be the cost of doing business. For example, how much negative financial impact can a \$12,000 fine have on a carrier who is eroding another's market statute; even if it is via unsavory tactics?

The FCC may also invoke Title V to levy more stringent fines against ILECs if the FCC determines after notice and a hearing that an ILEC willfully or repeatedly violated the terms of its licensing authority,<sup>91</sup> or any provisions of the Act.<sup>92</sup> As a result the FCC may impose fines up to \$100,000 for each violation. However, the fine for a continuing violation may not exceed \$1,000,000.<sup>93</sup>

Where BOCs are hindering a CLEC's OSS access, it is more likely that the FCC will invoke Section 271 (d)(6) to assess penalties.<sup>94</sup> The FCC may, after notice and an opportunity for a hearing, apply either one of the following two options: order the deficiency corrected or penalize the offending BOC under Title V; or, suspend or revoke the BOC's in-region interLATA service authority.<sup>95</sup>

Section 271(d)(6) emphasizes Congress' concern that BOCs may use their in-region market power to discriminate against a competitor in providing interconnection access. 271(d)(6) therefore serves as the FCC's stick to maintain order in the local exchange.

In *The Second Order on Reconsideration* the FCC asserted that it did not anticipate the need for any immediate enforcement action against ILECs who are making good faith efforts to comply with their nondiscriminatory access requirement.<sup>96</sup> However, the FCC did not preclude the initiation of FCC enforcement "where circumstances warrant."<sup>97</sup> Clearly, ongoing discriminatory access to OSS appear to be the circumstances under which the FCC should establish the framework from which any enforcement ought to take place.

As noted above, FCC retains jurisdiction over interconnection between carriers for resale services and UNEs as required by Section 251. See *supra* notes 69-82.

<sup>87</sup> See *id.* § 271(c)(1)(B)(ii) (1997). As noted above, under Section 251 OSS is inherently involved in interconnection for UNEs and resale services. *Id.*

<sup>88</sup> See 47 U.S.C.A. § 271(d)(2)(A) and (B) (West Supp. 1998).

<sup>89</sup> See 47 U.S.C. § 205 (1994).

<sup>90</sup> See *id.* § 205 (b).

<sup>91</sup> See *id.* § 503(b)(1)(A).

<sup>92</sup> See *id.* § 503(b)(1)(B).

<sup>93</sup> See *id.* § 503(b)(2)(B).

<sup>94</sup> See 47 U.S.C.A. § 271 (d)(6) (West Supp. 1998). This section provides that the FCC has ongoing oversight of a BOC offering interLATA service. *Id.*

<sup>95</sup> See *id.* § 271 (d)(6)(A).

<sup>96</sup> See *In re Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, Second Order on Reconsideration*, 11 FCC Rcd. 19738, 19744 (1996).

<sup>97</sup> *Id.*

### III. PERFORMANCE MEASUREMENT STANDARDS

#### A. Pros & Cons of Performance Measurement Standards

There is an old Bell system saying: "if you can measure it, you can manage it."<sup>98</sup> CLECs,<sup>99</sup> PUCs,<sup>100</sup> Department of Justice,<sup>101</sup> and the FCC<sup>102</sup> all have asserted the importance of performance measurement requirements. Given that the FCC has yet to grant a BOC Section 271 licensing authority,<sup>103</sup> it would appear that they too would recognize the role that performance measurement standards would play in demonstrating compliance with Section 271.<sup>104</sup>

ILECs, however, do not look favorably on federal regulations requiring them to measure access to OSS. In one sense it would be an additional function that their OSS might not be able to handle.<sup>105</sup> In another, performance measurement standards would be a redundant regulatory burden.<sup>106</sup> Some ILECs consider performance mea-

surement standards discriminatory.<sup>107</sup>

The beneficial value of performance measurement standards outweigh any asserted negative aspects. First, detecting discrimination in complying with OSS access requirements depends on the establishment of performance measurements.<sup>108</sup> Second, in the case of BOCs complying with Section 271 after having received in-region, interLATA authority, measurements quantify whether the BOC continues to provide nondiscriminatory access.<sup>109</sup> Third, measurements enable CLECs and ILECs to "request, monitor and implement interconnection."<sup>110</sup> Lastly, measurements enable carriers, regulators and customers to review and predict industry trends.<sup>111</sup>

#### B. Differences Between UNE and Resale

##### 1. Description of the Services

The Act anticipates three methods through which local services will be provided: resale, un-

<sup>98</sup> See Comments of ALTS, *supra* note 16, at 1 (July 10, 1997).

<sup>99</sup> See Comments of WinStar Comm., Inc., *supra* note 59, at 3. "The Commission also should initiate a rulemaking proceeding to set minimum uniform performance standards for OSS, and impose penalties for failure to meet those standards." *Id.*

<sup>100</sup> See *In re Order Instituting Rulemaking on the Commission's Own Motion into Monitoring Performance of Operations Support Systems*, California Public Utilities Commission R.97-10-016, at 6 (Oct. 9, 1997) [hereinafter *CPUC R.97-10-016*]. It would be difficult to determine whether Pacific Bell should be authorized to offer in-region interLATA services without data to determine whether its OSS are functioning properly. *Id.*

<sup>101</sup> See *Dept. of Justice Evaluation of SBC Communications OK*, *supra* note 36, Friduss Aff. at 6. Detecting discrimination in provision of OSS services depends on establishing performance measures. *Id.*

<sup>102</sup> See *Application of Ameritech MI, Memorandum Opinion and Order*, *supra* note 47, at 330. The FCC must have a proper factual basis to determine whether a BOC is supplying nondiscriminatory access to all of its OSS functions. *Id.*

<sup>103</sup> *Teleport Comm. Group*, *supra* note 1, at 2-3. Stating that additional reasons for ILECs is the avoidance of repeated complaints and subsequent lawsuits. *But cf. Opposition Comments of GTE Service Corporation* Comments to the *Request for Comments* in DA No. 97-1211, at 3-4 (July 10, 1997). (Asserting that ILECs are already subject to performance measurements through interconnection agreements). *Id.*

<sup>104</sup> *Dept. of Justice Evaluation of Ameritech MI*, *supra* note 33, at 35. Ameritech admits that it needs "concrete, detailed performance standards and benchmarks for measuring Ameritech's compliance with its contractual obligations and impos[ing] penalties for noncompliance." *Id.*

<sup>105</sup> See *Opposition Comments of GTE Service Corp.* to the *Request for Comments* in DA No. 97-1211, at 12-13 (July 10,

1997). [hereinafter *Opposition Comments of GTE Service Corp.*]. (Explaining that measurement systems do not exist for services provided to CLECs since there was no need to provide them in the past). *Id. But see Teleport Comm. Group*, *supra* note 1, at 2. Asserting that ILECs monitor their own performance in critical areas, PUCs require ILECs to submit service quality data in regular reports, and the FCC requires BOCs and other ILECs to file performance measurements for its annual report, "Quality of Service for Local Operating Companies Aggregated to the Holding Company Level." *Id.*

<sup>106</sup> See *Opposition Comments of GTE Service Corp.*, *supra* note 105, at 13. See also *Comments of Bell Atlantic and Nynex to the Request for Comments* in DA No. 97-1211, at 5 (July 10, 1997) (noting that interconnection agreements between parties, which are mediated and arbitrated by PUCs, contain rigorous performance measurement standards). *Id.*

<sup>107</sup> See *Comments of Pacific Bell, Nevada Bell, and Southwestern Bell Telephone Co. to the Request for Comments* in DA No. 97-1211, at 9-10 (July 10, 1997). ILECs may not be able to meet the standards for the services that they provide for their own use. Also, the standards will not likely permit exceptions for lapses caused by "natural disasters, work stoppages, periods of great demand, or weekends or holidays," and because resources are finite. *Id.*

<sup>108</sup> See *Dept. of Justice Evaluation of SBC Communications OK*, *supra* note 36, Friduss Aff. at 7.

<sup>109</sup> See *In re Application by BellSouth Corp., BellSouth Telecomm., Inc. and BellSouth Long Distance, Inc. for Provision of In-Region, InterLATA Services in Louisiana*, *Evaluation of U.S. Dept. of Justice*, at 38 (Dec. 10, 1997). [hereinafter *Dept. of Justice Eval. of BellSouth LA*].

<sup>110</sup> *Comments of ALTS*, *supra* note 16, at 4. Performance measurement standards enable carriers to determine if they are receiving nondiscriminatory access, and if so, to continue conducting business with the ILEC with whom they interconnect.

<sup>111</sup> *Id.* at 3.



bundled network elements, and construction of one's own network.<sup>112</sup> Unless one CLEC is providing interconnection to another CLEC, the third option does not apply to this discussion.

Resale occurs where CLECs purchase the same packages of services that the ILEC provides to its own customers.<sup>113</sup> The CLEC then labels those services under its own name.<sup>114</sup> Resale, therefore, provides little product differentiation in a competitive market.<sup>115</sup> It is therefore deemed to be a transitory measure to be used until interconnection via UNEs and facilities-based networks are further developed.<sup>116</sup>

Service providers who either cannot, or choose not to provide services via their own network may augment their service provision capacity by acquiring an ILEC's UNEs.<sup>117</sup> The CLEC either acquires all of its services on an unbundled basis, or combines the ILEC's UNEs with its own.<sup>118</sup> The CLEC must, however, present the mixture as one package to a customer.<sup>119</sup> While the end result appears seamless in the customer's eyes, UNE service provision is complex, prone to errors, and subject to ILEC discriminatory business practices which are likely to affect the way an end-user perceives the CLEC's performance quality.<sup>120</sup> As a result, a separate set of measurements are required for UNEs.

## 2. Recommendation

The FCC must recognize the differences between UNEs and resale.<sup>121</sup> It should therefore establish separate measurement requirements for the two services. It is also justified by the significant, future impact UNE's will have on the development of the local exchange.<sup>122</sup> Lastly, measuring both will allow interested parties to determine which is a more efficient path towards a CLEC's future growth. This in turn results in a more competitive local exchange.

### C. Recommending What To Measure

The FCC must consider what ILECs will be required to measure. Generally, the purpose of performance measurements is to quantify the quality and reliability of OSS.<sup>123</sup> Quality is measured by time intervals which measure how long an activity takes to complete.<sup>124</sup> Reliability determines how well the activity is performed, and if it needs to be repeated.<sup>125</sup> However, performance measurements do not indicate the quality of OSS access. Instead, they solely provide a yardstick to be used in measuring against the pertinent service quality benchmarks.<sup>126</sup>

<sup>112</sup> See *Local Competition Order*, at 15509-15510.

<sup>113</sup> See *Teleport Comm. Group*, *supra* note 1, at 1. Resellers of local services merely "rebrand" the underlying carrier's services with their own name, while facilities-based carriers differentiate their services through quality of service provided via state-of-the-art technology, distinct and customized service packages, and superb quality provided at the lowest possible price. *Id.*

<sup>114</sup> See *id.*

<sup>115</sup> See *id.*

<sup>116</sup> See *LCI CompTel Petition*, *supra* note 4, at 28. "Resale . . . is a limited interim vehicle to check the existing monopoly power of the LECs". *Id.*

<sup>117</sup> See *Local Competition Order*, at 15509-15510.

<sup>118</sup> See *id.*

<sup>119</sup> See *Comments of ALTS*, *supra* note 98, at 8.

<sup>120</sup> See *LCI CompTel Petition*, *supra* note 4, at 29 (arguing that the FCC should be aware that the UNE platform is still a complete unknown given its inherent complexities).

<sup>121</sup> *Teleport Comm. Group*, *supra* note 1, at 1. See also *LCUG Service Quality Measurements*, *supra* note 62, app. A at 56. For example, resale services requiring measurement include: resident POTS, Business POTS, Resident ISDN, Business ISDN, Centrex/Centrex-Like, PBX trucks, Channelized T1.5 service, and other resold services. *Id.* UNE services requiring measurement include: UNE platform, UNE channelized

DS1, unbundled DS0 loop, unbundled DS1 loop, other unbundled loops, unbundled switches, other UNEs. *Id.* Compare *ALTS Service Quality Measurements, Version 1.0*, app. A, at 28 (December 9, 1997), which adds the following items to the LCUG list: ISDN basic rate, ISDN primary rate, unbundled DS3 loop, network interface device, direct inward dialing, remote call forwarding for ported numbers, signaling system 7. See also *Teleport Comm. Group*, *supra* note 1, at 3. ILECs should further be required to distinguish between analog and digital circuits, specifically because CLECs are more likely to employ the greater-capacity-carrying digital loops in an effort to distinguish its services. *Id.*

<sup>122</sup> See *LCI CompTel Petition*, *supra* note 4, at 29. The application of UNEs provide a middle ground between facilities-based competition and resale and provides a facilitated path toward the former. *Id.*

<sup>123</sup> See *Dept. of Justice Evaluation of SBC Comm. OK*, *supra* note 36, Friduss Aff. at 7.

<sup>124</sup> See *id.* at 8. This can be an objective measurement that measures the percentage of orders completed within a certain time period, or it can be concrete and indicate the number of minutes, hours, days, etc. needed to complete an order. *Id.*

<sup>125</sup> See *id.*

<sup>126</sup> See *id.*

### 1. Pre-Order

The FCC should require ILECs to measure pre-ordering for quality and reliability. Quality intervals may measure either the specific or average time required for CLECs to obtain pre-order information.<sup>127</sup> Time intervals will also allow a comparison to be made against the ILEC's OSS access to show whether the CLEC has an equal opportunity to deliver a comparable customer experience.<sup>128</sup> Pre-order reliability will demonstrate the "accuracy and completeness" of the data received.<sup>129</sup>

### 2. Ordering and Provisioning

There are three measurement categories involved with ordering and provisioning. The average completion interval demonstrates the time required to deliver "integrated and operable service components requested by the CLEC, regardless of whether service resale or unbundled network elements are employed."<sup>130</sup> The FCC ought also to require an ILEC to measure the percentage of orders completed on time.<sup>131</sup> Second, ordering and provisioning reliability measurements determine the "accuracy and completeness" of the response

to orders.<sup>132</sup> The third performance measurement relates to the percentage of orders that "flow-through" from the CLEC service representative to completion where no ILEC technician interrupts the order's path between interfaces.<sup>133</sup>

### 3. Maintenance & Repair

Performance quality measurements for maintenance and repair are key given their visibility to the end-user.<sup>134</sup> For example, a customer is likely to have to cancel other obligations to be present to receive a telephone service repairman. Any tardiness or missed service dates would therefore be especially burdensome on the customer, who is more likely to blame the CLEC who provides him/her services than the underlying ILEC.

Quality of repair measures the interval between when the end-user reports the need for repairs, and the subsequent notification of completion.<sup>135</sup> Repair reliability measures the quality of the repair by indicating the frequency of network.<sup>136</sup> Other repair measurements that may be considered relate to whether repair commitments are met according to the established benchmark.<sup>137</sup>

<sup>127</sup> See *LCUG Service Quality Measurements*, *supra* note 62, at 8. See also Dept. of Justice Evaluation of SBC Comm. OK, *supra* note 36, Friduss Aff. at 12. Intervals demonstrate OSS response times which allow a customer representative to complete the order while on the phone with the customer. *Id.* Cf. *Teleport Comm. Group*, *supra* note 1, at 5 (arguing that pre-ordering measurements should determine if the ILEC provides access within 20 seconds). *Id.*

<sup>128</sup> See *LCUG Service Quality Measurements*, *supra* note 62, at 8.

<sup>129</sup> See Dept. of Justice Evaluation of SBC Comm. OK, *supra* note 36, Friduss Aff. at 12.

<sup>130</sup> See *ALTS: Service Quality Measurements*, *supra* note 121, at 13. See also Dept. of Justice Evaluation of SBC Comm. OK, *supra* note 36, Friduss Aff., at 13. Average completion interval measures response times for notification of order completion, jeopardy, and rejection. *Id.*

<sup>131</sup> See *LCUG Service Quality Measurements*, *supra* note 62, at 8. Percent orders on time and average completion interval may contribute to determining matters related to ILEC network capacity. *Id.*

<sup>132</sup> See Dept. of Justice Evaluation of SBC Comm. OK, *supra* note 36, Friduss Aff., at 13. See also *LCUG Service Quality Measurements*, *supra* note 62, at 9. Average response times may also be used to indicate order status. *Id.* Additional status measurements allow CLECs to determine: the average interval for order rejections; a firm order confirmation (FOC) to indicate that an order has been completed; the average jeopardy interval to determine how long it took to transmit notice

that a FOC could not be processed as initially ordered by the CLEC; the percent of jeopardies returned; the average interval that an order is held beyond the promised order completion date. *Id.*

<sup>133</sup> See Dept. of Justice Evaluation of SBC Comm. OK, *supra* note 36, Friduss Aff., at 13. See also *Problems With OSS Interfaces* *supra* note 46, at 1. While BellSouth made improvements in its flow-through rates, a 60% disparity of order flow-through rates between ILEC and CLEC order was of particular concern to the FCC given that the services ordered were simple resale orders. *Id.*

<sup>134</sup> See Dept. of Justice Evaluation of SBC Comm. OK, *supra* note 36, Friduss Aff., at 14. Given end-user dependence on communications services and the likelihood that they will have to take time away from other daily chores to be at the site where repairs are made, tardiness and frequent troubles are especially troublesome. *Id.*

<sup>135</sup> See *id.* at 15. See also *LCUG Service Quality Measurements*, *supra* note 62, at 10. There is a correlation between time required to correct a service problem and customer dissatisfaction. *Id.*

<sup>136</sup> See *id.* at 10 (noting that frequency of service repair can also indicate the quality of the ILEC's network). *Id.* See also *Teleport Comm. Group*, *supra* note 1, at 10 (adding that other items to be measured may include the proportion of time that an ILEC-installed facility requires repair within the 30 days of the last repair). *Id.*

<sup>137</sup> See *Teleport Comm. Group*, *supra* note 1, at 10.

#### 4. Billing Measurements

Billing performance measurements detail the "speed, accuracy, and completeness" of ILEC-provided billing data.<sup>138</sup> Quality measurements detail the average or specific time required to generate recorded usage records, and the average time to deliver the invoices to the CLEC.<sup>139</sup> Reliability of billing measures the percent of invoice and usage accuracy.<sup>140</sup> This is especially important as inaccuracies result in incorrect charges being paid which result in damage to either the end-user's bottom line, the CLEC's, or both.<sup>141</sup>

#### 5. UNE-Specific Measurements

CLECs employ individual and combinations of UNEs to provide competitive local exchange services. It is essential, therefore, that the ILEC-provided UNE function properly to ensure that CLECs can combine network elements and provide a seamless array of services to end-users.<sup>142</sup> The only way to guaranty that capacity is through monitoring of UNE access as provided by ILECs.

#### 6. Recommendations

ILECs must measure all factors involved in making unbundled services appear seamless. UNE performance measurement standards must therefore be measured and reported with the various functions to which they are combined.<sup>143</sup> For example, measurements must indicate the intervals at which combined network elements are connected.<sup>144</sup> ILECs must also measure timed responses to network errors which lead to service degradation.<sup>145</sup>

ILECs must measure all unbundled loops<sup>146</sup> obtained by each individual CLEC.<sup>147</sup> This therefore requires the ability to track all categories of each unbundled loop for each carrier.<sup>148</sup> The FCC ought also to require ILECs to differentiate their reports by categories of services that carriers provide and receive.<sup>149</sup>

#### 7. Future Considerations

The obligation to measure all relevant OSS services need not be permanent. The FCC may, in the future, reward ILEC compliance with OSS performance measuring and reporting requirements by tempering the obligation. In the case of performance measurement requirements, the FCC may reduce the number of services or methods by which they are measured. As discussed in Section IV of this Comment, the frequency of monthly reporting requirements may be reduced as deemed appropriate.

#### D. Creating Benchmarks for Performance Measurement Standards

Benchmarks are the standard against performance measurements are compared to determine if CLECs receive OSS access at the same level that an ILEC provides to itself. As indicated below, three parties may establish benchmarks: ILEC, FCC, or PUC. The determination of whose benchmarks are applied, however, essentially depends on whether the relevant ILEC provides reasonable standards against which its OSS provision is to be measured.<sup>150</sup>

<sup>138</sup> See *Dept. of Justice Evaluation of SBC Comm. OK*, *supra* note 36, *Friduss Aff.*, at 7.

<sup>139</sup> See *LCUG Service Quality Measurements*, *supra* note 62, at 13. ILECs obtain an "artificial" competitive advantage where they do not provide the records in a timely manner to CLECs. *Id.*

<sup>140</sup> See *id.*

<sup>141</sup> See *id.*

<sup>142</sup> See *id.* at 52.

<sup>143</sup> See Comments of ALTS, *supra* note 16, at 8. Other unbundled network elements include white pages, E911, and number portability. *Id.*

<sup>144</sup> See *id.* See also *id.* at 9. Lack of parity in one of the unbundled elements will likely hinder the appearance of the CLEC's in the eyes of the end-user. *Id.*

<sup>145</sup> See *id.* at 9.

<sup>146</sup> See *NEWTON'S TELECOM DICTIONARY*, *supra* note 8, at 678. A loop typically refers to a complete electrical circuit.

But the loop can also refer to the wires that connects the ILEC's central office and the end-user's premises. *Id.*

<sup>147</sup> See Comments of ALTS, *supra* note 16, at 10.

<sup>148</sup> See *id.* This includes loop intervals, number portability, etc. See also *ALTS: Service Quality Measurements*, *supra* note 121, app. A, at 28. Additional services include: ISDN Basic Rate; ISDN Primary Rate; Unbundled DS3 Loop; Network Interface Device; Direct Inward Dialing; Remote Call Forwarding for Ported Numbers; Signaling System 7; and interim number portability. *Id.*

<sup>149</sup> See Comments of ALTS, *supra* note 16, at 8. It is impractical for ILECs to assert that 90% of UNEs are provided at nondiscriminatory intervals if half of the carriers with which it interconnects do not access the same services. *Id.*

<sup>150</sup> See Comments of LCI Int'l Telecom Corp. to the *Request for Comments* in DA No. 97-1211, at 6 (July 10, 1997). [hereinafter *LCI Int'l Telecom Corp. Comments*].

### 1. ILECS May Provide Their Own Benchmarks

ILECs inability to provide their own OSS performance measurement standards has been a primary reason for the initiation of the FCC's ongoing OSS rulemaking<sup>151</sup> and 271 application rejections.<sup>152</sup> The FCC nonetheless ought to recognize an ILEC's potential to further develop its own standards for measuring access to OSS.<sup>153</sup> Such standards must, however, be reasonable.<sup>154</sup>

### 2. Where Not Provided By an ILEC, The FCC Will Establish Default Standards

The FCC ought to establish its own benchmarks where an ILEC does not provide its own.<sup>155</sup> Such standards would serve as default provision either where the ILEC does not provide information or its measurements are inadequate.<sup>156</sup> Given a PUC's role in arbitrating interconnection agreements,<sup>157</sup> the FCC should recognize that its standards ought to reflect a minimal level of parity.<sup>158</sup> This in turn will provide states with an opportunity to fully adopt the FCC's standards, or enable them to model their own OSS measurements standards.<sup>159</sup>

In establishing its default benchmarks, the FCC should avoid developing numerically static, inflexible performance measurement standards.<sup>160</sup> In-

stead, the FCC's benchmark system must remain flexible to accommodate persistent improvements in OSS technology and marketplace pressures.<sup>161</sup> Benchmarks should also permit lapses in parity due to environmental occurrences, labor strikes, system upgrades, etc.<sup>162</sup> Moreover, the FCC should establish a biennial review of the benchmarks to alter the system as necessary.

### 3. States May Establish Their Own Standards

Pursuant to Section 252(B)(4)(c), PUCs are responsible for arbitrating differences between interconnecting service providers.<sup>163</sup> States therefore have a unique role in ensuring the development of effective local competition. The history of local service provision infers that PUCs have a developed understanding of an ILEC's methods of doing business, and their networks' capacities.<sup>164</sup> State regulatory agencies should be able to look at the FCC's default benchmarks and determine whether or not more detailed standards are necessary.<sup>165</sup> If so, PUCs can thus determine which standards are most applicable to the development of the local exchange in their jurisdiction.<sup>166</sup>

States must, however, recognize that imposing benchmarks which are too strict will have a signifi-

<sup>151</sup> See *LCI CompTel Petition*, *supra* note 4, at 30. Not one ILEC met the Section 251 interconnection obligation of providing nondiscriminatory access to OSS functions. *Id.*

<sup>152</sup> See *Dept. of Justice Eval. of BellSouth LA*, *supra* note 109, at 31-32. DoJ examines whether BOC established performance standards demonstrate a BOC's commitments to meet specified levels of performance and performance. In both its Louisiana and South Carolina Section 271 applications BellSouth failed to provide sufficient performance measurements to make a determination of parity in the provision of resale and UNEs. *Id.*

<sup>153</sup> See Comments of LCI Int'l Telecom Corp., *supra* note 150, at 6.

<sup>154</sup> See *id.*

<sup>155</sup> See *id.* Compare Comments of California Public Utilities Comm'n ("CPUC") to the *Request for Comments* in DA No. 97-1211, at 7 (Jul. 9, 1997), with Comments of Nat'l Telecomm. and Info. Admin. ("NTIA"), to the *Request for Comments* in DA No. 97-1211, at 2 (Aug. 12, 1997), and Comments of Wisconsin Public Service Comm'n, to the *Request for Comments* in DA No. 97-1211, at 5 (Jul. 9, 1997).

<sup>156</sup> See Comments of LCI Int'l Telecom Corp., *supra* note 150, at 6.

<sup>157</sup> See Comments of CPUC, *supra* note 155, at 2. The Act mandates that both state and federal regulators oversee the development of OSS functions. *Id.*

<sup>158</sup> See *id.* at 7-8. Detailed standards would tax FCC re-

sources, and the notice and comment process might preclude states from initiating their own OSS rulemaking proceeding. *Id.*

<sup>159</sup> See *id.*

<sup>160</sup> See Comments of Teleport Comm. Group ("TCG") to the *Request for Comments* in DA No. 97-1211, at 2 (Jul. 10, 1997). See also *id.* at 4. The Act and the FCC's interpretation of it indicate that parity is a flexible standard that the FCC should not try to set in stone. *Id.*

<sup>161</sup> See *id.* Cf. Comments of Wisconsin Public Service Commission, to the *Request for Comments* in DA No. 97-1211, at 3 (Jul. 9, 1997) (arguing that standards ought to reflect the fact that OSS "access has never been provided before and it is literally impossible to create a defect-free information exchange system overnight"). *Id.*

<sup>162</sup> See Comments of Pacific Bell, Nevada Bell, and Southwestern Bell Telephone Co. to the *Request for Comments* in DA No. 97-1211, at 9-10 (Jul. 9, 1997).

<sup>163</sup> See Comments of CPUC, *supra* note 155, at 6.

<sup>164</sup> See Comments of NTIA, *supra* note 155, at 2.

<sup>165</sup> See Comments of CPUC, *supra* note 155, at 8. See also Comments of LCI Int'l Telecom Corp., *supra* note 150, at 6.

<sup>166</sup> See Comments of NTIA, *supra* note 155, at 2. See also Comments of Competitive Policy Institute ("CPI") to the *Request for Comments* in DA No. 97-1211, at 6 (Jul. 10, 1997). States should be able to adopt OSS standards that are more stringent than the FCC's. *Id.*

cant adverse impact on local competition.<sup>167</sup> Unreasonable standards will prevent BOCs from demonstrating nondiscriminatory access to its OSS functions.<sup>168</sup> As a result, one state's unreasonable requirements will make it more difficult for a BOC to obtain 271 licensing authority than other states nationwide.<sup>169</sup> The FCC should therefore be attentive to this possibility and recognize the probability of preempting state authority where it prevents local competition.<sup>170</sup>

#### IV. REPORTING REQUIREMENTS

In the *Second Order on Reconsideration of the Local Competition Order*, the FCC held that an ILEC must provide an interconnecting CLEC the OSS interface design specifications that it uses to provide OSS to itself.<sup>171</sup> The FCC did not, however, build on this reporting requirement, and thus left open the issue of whether an ILEC would be required to report on its provision of access to OSS.

##### A. The Purpose of Reporting Requirements: A Need for Disclosure

ILECs are hesitant to disclose information regarding compliance with OSS nondiscriminatory access standards.<sup>172</sup> Until the passage of the Act, ILECs had a monopoly on local service.<sup>173</sup> With the passage of the Act, the monopoly has been reduced to mere dominant market power.<sup>174</sup> This slide may forecast even greater market loss as local exchanges eventually become competitive. It is therefore natural that an ILEC would want to do whatever it can to maintain its place in the market, prevent CLECs from taking its customers, and also obtain authority to offer in-region in-

terLATA services.<sup>175</sup> If that means holding on to reports measuring parity between services that an ILEC offers to itself and the services that it provides to a CLEC, then so be it.<sup>176</sup>

Reporting requirements serve as a monitoring device to ensure compliance with ILEC measurement obligations.<sup>177</sup> Moreover, reporting requirements ensure that carriers, the FCC, PUCs and other interested parties have access to the same set of OSS access information. This in turn will guaranty that they all "speak the same language" with regard to performance standards.<sup>178</sup>

Reporting requirements benefit both PUCs and the FCC by providing an invaluable resource to determine if nondiscriminatory access is being provided. The agency may also use these reports as a standard when reviewing petitions for mediation<sup>179</sup> or arbitration,<sup>180</sup> or take corrective action to remedy competitive problems disclosed by the reports.<sup>181</sup> Reports will also provide CLECs with information basic to setting up its back-office<sup>182</sup> monitoring systems to ensure that they are providing competitive local services. This information, precludes a CLEC from collecting OSS access information from alternative sources which lack an ILEC's first hand information.<sup>183</sup>

Given the nature of a competitive industry, reports indicating discriminatory access will alert CLECs that their customers are receiving inferior services compared to what other carriers provide. CLECs may then quickly identify problems, alert the ILEC, and hopefully arrive at a concerted solution to the problem. If, however, such an ideal resolution does not result, parties to the agreement can file complaints with administrative agencies, either state<sup>184</sup> or federal,<sup>185</sup> to resolve the issue.

<sup>167</sup> See Comments of CPUC, *supra* note 155, at 8-9.

<sup>168</sup> See *id.*

<sup>169</sup> See Comments of CPI, *supra* note 166, at 5-6.

<sup>170</sup> 47 U.S.C.A. § 254 (West Supp. 1998).

<sup>171</sup> 11 FCC Rcd. 19738, 19742 (1996).

<sup>172</sup> See *In re Common Carrier Bureau Operations Support Systems Forum*, at 36. Bell Atlantic required LCI to sign a confidentiality order for all OSS performance standards. *Id.* As a result, anything that LCI reported to a state utility commission, Department of Justice, or the FCC would be under seal and unavailable for the public's review. *Id.*

<sup>173</sup> See *id.* at 72.

<sup>174</sup> See *id.*

<sup>175</sup> See *id.*

<sup>176</sup> See *In re Common Carrier Bureau Operations Support Systems Forum*, at 72.

<sup>177</sup> See Comments of LCI Int'l Telecom Corp., *supra* note

150, at 8.

<sup>178</sup> See *id.*

<sup>179</sup> See 47 U.S.C.A. § 252 (a)(2) (West Supp. 1998).

<sup>180</sup> See *id.* at § 252 (b)(1).

<sup>181</sup> See *LCI CompTel Petition*, *supra* note 4, app. A at 13.

<sup>182</sup> See IEC Web Proforums, *supra* note 6, § 1. The term "back office" refers to where a company performs general business functions, regardless of the communications service provided general functions that a company requires, regardless of the business, are performed. *Id.* For example, a ILEC's back office contain its entire OSS database. *Id.* Front office refers to the part of the business that deals with customer operations. Front office functions are frequently unique based on the industry and/or service provided. *Id.*

<sup>183</sup> See *LCI CompTel Petition*, *supra* note 4, at 9.

<sup>184</sup> See 47 U.S.C.A. § 252 (West Supp. 1998). In general, state regulatory agencies have authority over interconnection

Reporting requirements are beneficial to ILECs as they provide them with a record from which they can advocate their own case for 271 authority, negotiate interconnection agreements, and defend against complaints for lack of parity in services. These reporting requirements will likely pose a minimal burden on the ILEC.<sup>186</sup> OSS already measure the ILEC's own services, and therefore should be able to provide the objective data necessary to determine if parity is being provided to a CLEC.<sup>187</sup> Even where reporting for specific OSS services has been developed, OSS are large, complex databases capable of performing such added functions.<sup>188</sup>

## B. Interim Reporting Requirements

Two years after the Act's passage, CLECs remain new entrants to the local exchange. Their marketplace presence is hindered by ILEC unwillingness to disclose vital OSS information,<sup>189</sup> and they lack alternative sources to get such information.<sup>190</sup> Interim reporting requirements provide CLECs an initial source of reference until reports can be provided on a regular basis.<sup>191</sup> Interim reports also facilitate future compliance monitoring the FCC, PUCs, ILECs, and CLECs can refer to them when circumstances require.

### 1. Recommendation for Interim Reporting Requirement

The FCC should require ILECs to provide to the FCC, PUCs, and CLECs with whom they interconnect an interim report describing: 1) all OSS functions currently measured;<sup>192</sup> 2) benchmarks they adhere to; 3) performance measurement standards being developed; 4) and, how current

and future performance standards will be measured.<sup>193</sup>

Under this scheme the ILEC could optimally provide any information specifically dealing with manual OSS services. Such information would demonstrate to all interested parties the negative impact that manual OSS has on a CLEC's capacity to enter the local exchange. This information would also provide the ILEC the opportunity to demonstrate its commitment to improving access to OSS as it eventually replaces manual service providers with electronic interfaces.

## C. Permanent Reporting Requirements

Like interim reports, the FCC should require ILECs to provide reports to the CLEC, FCC, PUC, and ILEC itself on a monthly basis.<sup>194</sup> The FCC and relevant PUC should thereafter make the report available to the general public. This guarantees that everyone with a vested interest in the development of a competitive local exchange will have the information necessary to monitor parity for OSS. However, reports to CLECs should specify performance information for that carrier only, but still report on other CLECs in a generalized, non-descriptive manner.<sup>195</sup>

### 1. Time Frame for Initiating Monthly Reporting Requirements

A CLEC ought to begin receiving reports within 90 days after signing an interconnection agreement.<sup>196</sup> After that, regular monthly reporting ought to begin<sup>197</sup> which provides the CLEC with a chart comparing the services it receives against: 1) the OSS access that an ILEC's<sup>198</sup> affiliate(s) receives; 2) the ILEC's ten largest retail customers;

agreements. *Id.*

<sup>185</sup> See *id.* at § 252(e)(5). The FCC has authority over interconnection agreements where the PUC fails to act. *Id.*

<sup>186</sup> See *Teleport Comm. Group*, *supra* note 1, at 16.

<sup>187</sup> See *id.* Cf. Opposition Comments of GTE Service Corp., *supra* note 105, at 12-13.

<sup>188</sup> See *id.*

<sup>189</sup> See *id.*

<sup>190</sup> See *id.*

<sup>191</sup> Cf. Comments of AT&T Communications Corporation ("AT&T") to the *Request for Comments* in DA No. 97-1211, at 8 (July 10, 1997).

<sup>192</sup> See *id.* at 19. See also Comments of WinStar, *supra* note 59, at 3.

<sup>193</sup> See *id.*

<sup>194</sup> See *In re Applications of NYNEX Corporation and Bell*

Atlantic Corporation for Consent to transfer Control of NYNEX Corp. and Its Subsidiaries, *Memorandum Opinion and Order*, 9 Comm. Reg. 187, Appendix C p. 257, (1997). [hereinafter *Bell Atlantic/NYNEX Merger*].

<sup>195</sup> See CPUC R.97-10-016, *supra* note 100, app. A. See also *Bell Atlantic/NYNEX Merger*, *supra* note 194, app. C at 257.

<sup>196</sup> See *Bell Atlantic/NYNEX Merger*, *supra* note 194, app. C at 257. See also CPUC R.97-10-016, *supra* note 100, app. A.

<sup>197</sup> See *Bell Atlantic/NYNEX Merger*, *supra* note 194, app. C at 257. See also Comments of AT&T, to the *Request for Comments* in DA No. 97-1211, at 20 (July 10, 1997). Compare with Comments of TCG to the *Request for Comments* in DA No. 97-1211, at Exhibit A (Jul. 10, 1997). Given that some ILECs still do not believe that OSS is a UNE, it may be inferred that monthly reporting requirements are not favored. *Id.*

<sup>198</sup> See *Bell Atlantic/NYNEX Merger*, *supra* note 194,

3) carriers purchasing interconnection in the aggregate; 4) and, services and facilities provided to individual carriers purchasing interconnection.<sup>199</sup>

## 2. Recommendations for the Future

The FCC ought to consider building future flexibility into the monthly reporting requirement.<sup>200</sup> It may permit both the ILEC and CLEC to build into their interconnection agreement a relaxed reporting requirement that becomes effective after OSS parity standards have been met over an extended period of time. Under this scenario the ILEC would submit to the FCC and PUC a petition for relief from reporting requirements based on a thorough demonstration that a proven track record of compliance with OSS access requirements. The FCC would then issue a notice of proposed rulemaking, and eventually issue a report.

Similarly, once an ILEC establishes a proven track record of nondiscriminatory OSS access, PUCs may permit relaxed reporting requirements to be built into interconnection agreements. This relaxation would likely appear as an contractual option to go into effect once the ILEC proves compliance over time. Or, it could be implemented according to the desires of the two contracting parties.

app. C at 257. While the FCC requires a report within 90 days after the signing of the agreement, it recognizes that reports for certain services may not be available by that time. *Id.* See also CPUC R.97-10-016, *supra* note 100, app. A.

<sup>199</sup> See *Bell Atlantic/NYNEX Merger*, *supra* note 194, app. C at 257. Compare Comments of TCG, *supra* note 160, at Exhibit 1.

<sup>200</sup> See *id.*

<sup>201</sup> See *In re Bell Atlantic/NYNEX Merger*, *supra* note 194, App. C at 257. *Id.*

<sup>202</sup> *Id.* But see Comments of Wisconsin Public Service Commission, *supra* note 155, at 3. Wisconsin does not believe a long list is necessary, instead just proof that an ILECs intervals are the same as the CLEC's. *Id.*

<sup>203</sup> See *In re Bell Atlantic/NYNEX Merger*, *supra* note 194, app. C, at 257. However, a PUC may require more information for its review of an application to obtain section 271 licensing authority, but may not require less than the FCC default for any other matter including monthly monitoring reports. *Id.*

<sup>204</sup> See 47 U.S.C. § 252 (West Supp. 1998). But see *Application of Ameritech MI*, *supra* note 47, at 330. Carriers require a great deal of information for their monitoring of parity in OSS services. *Id.* Therefore, it is unlikely that a carrier would initially want less information, but instead require more. *Id.* Compare Comments of AT&T, *supra* note 191, to the Request for Comments in DA No. 97-1211, at 20 (Jul. 10, 1997). As local competition becomes firmly rooted, carriers, like the

## D. Recommendations for the Content of the Reports

The FCC should establish a default reporting regulation requiring ILECs to provide a detailed narration of all the numeric measurements within the report.<sup>201</sup> The report should also include descriptive information defining which OSS services are measured.<sup>202</sup> Under this scenario, the ILEC should be required to provide any information<sup>203</sup> that a PUC requires in addition to what is mandated by the FCC. Additionally, under Section 252, the PUC may allow carriers to contract between themselves to provide greater or lesser amounts of information.<sup>204</sup>

## E. Reports Not Required on a Regular Basis

Given that ILECs' OSS are often designed to their specific service requirements,<sup>205</sup> and the fact that OSS are largely not subject to nationwide technological standards,<sup>206</sup> CLECs are forced to figure out how to interconnect with OSS that are distinct from others with which they interconnect.<sup>207</sup> This often occurs on a service by service basis, and also from state to state.<sup>208</sup>

FCC, are likely to reduce their demands for information detailing service intervals and concentrate on more appropriate competitive concerns. *Id.*

<sup>205</sup> See *IEC Web Proforums*, *supra* note 6, § 1. OSS were developed to accommodate the past static network configurations of "one line, one number, hard wired, not many changes." *Id.*

<sup>206</sup> See Comments of WinStar, *supra* note 99, at 3 (noting that "[o]f particular concern to Winstar is the fact that each ILEC's OSS functions are not standardized"). *Id.* Cf. Comments of GST Telecom, Inc. to the Request for Comments in DA No. 97-1211, at 12 (July 10, 1997) (arguing that "[u]ntil standardization is achieved, the Commission cannot establish minimum national standards for the provision of access to OSS by ILECs"). *Id.* See also *Common Carrier Bureau Operations Support Systems Forum*, *supra* note 22 at 60. (asserting that we absolutely need technical standards). *Id.* Note, this Comment does not address the issue of standards, as it is a subject unto itself.

<sup>207</sup> *IEC Web Proforums*, *supra* note 6, at § 3. Today, traditional carriers must deal with "hundred of non or semi-integrated systems, legacy core applications, and the demands of the new competitive marketplace to provide competitive differentiation through service delivery." *Id.*

<sup>208</sup> *Id.* While service providers have similar core systems to provide pre-ordering, ordering, provisioning, maintenance and repair, and billing, "literally thousands of applications have developed within each provider to customize core

### 1. Recommendations

The FCC must recognize the lack of technological uniformity and require that ILECs report any information related to their OSS hardware and software configurations.<sup>209</sup> ILECs should be required to inform CLECs of any internal "business rules,"<sup>210</sup> especially information related to ordering codes and field identifiers.<sup>211</sup> CLECs require information describing the codes to ensure that service initiation is not delayed due to a faulty ordering process.<sup>212</sup>

The most appropriate FCC requirement would place an affirmative obligation on an ILEC to provide to CLECs its "business rules concerning how its internal systems and databases process an order."<sup>213</sup> Competition and technological advances will likely further develop OSS capacity.<sup>214</sup> Any such developments will likely affect any CLEC's use of the systems.<sup>215</sup> The FCC should require ILECs to report any and all alterations or developments to its business rules. This will ensure the CLEC's ability to enter orders with the most up-to-date codes, which will thereby preclude any possibility of rejection resulting from ignorance.

In a similar manner, the FCC should require ILECs to inform the CLEC of any changes made to its hardware configurations. This argument assumes that all interested parties will be informed of industry standards. While standards may be de-

veloped, alterations to those systems must be expected. A CLEC ought to be apprised of any such changes.

## V. PENALTIES

Unless properly set penalty provisions are established, OSS reporting and performance standards will not provide ILECs with an incentive to comply with Sections 251 and 271. As noted in Section II(d) of this Comment, the FCC retains ample jurisdiction upon which to penalize ILECs for not providing nondiscriminatory access to OSS functions.<sup>216</sup> Three alternatives exist for the FCC to implement this policy: 1) abstain from regulating and allow penalties to be determined by interconnection agreements; 2) monetary penalties; 3) injunctive penalties.

### A. Abstention

The least active FCC policy would impose penalties through carriers' interconnection agreements. There are two reasons why this option is not viable. First, contractual negotiations have not proved themselves to be an effective deterrence to discriminatory OSS access.<sup>217</sup> Second, ILECs retain market power that precludes any sort of effective contractual, monetary penalty.<sup>218</sup>

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OSS and support new services." *Id.*

<sup>209</sup> See *Application of BellSouth South Carolina*, *supra* note 84, at para. 114. High ordering error rates can be attributed, to BellSouth's failure in "providing competing carriers with information and support concerning the effective use of the EDI interface."

<sup>210</sup> See *Application of Ameritech MI*, *supra* note 47, at 310-311. "Business rules" refer to protocols used by ILECs to guaranty that orders are formatted in a uniform manner. *Id.* An example would be a hardware command that prohibits the resubmission of an order after it was initially rejected. *Id.*

<sup>211</sup> See *Dept. of Justice Evaluation of Ameritech MI*, *supra* note 33, *App. A* at 24. Universal service ordering codes ("USOCs") and field identifiers ("FID") are the codes used by an ILEC to identify services and features. *Id.* The codes subsequently appear on the customer service records that the ILEC provides CLECs. *Id.* If a CLEC "cannot accurately identify the corresponding services and features a customer currently receives, the CLEC may not be fully aware of service-affecting ramifications of assuming service obligations for the customer or be able to order services accurately." *Id.* See also *In re Common Carrier Bureau Operations Support Systems Forum*, *supra* note 22 at 69-70. USOCs are difficult to interpret, as they are strings of letters, which if you enter into the OSS interface incorrectly, even by one letter, the order is rejected. *Id.* See also *In re Common Carrier Bureau Operations Support Systems Forum*, at 70. USOCs differ for residential and business con-

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sumers, further compounding the difficult situation already faced by CLECs. *Id.*

<sup>212</sup> See *Dept. of Justice Evaluation of Ameritech MI*, *supra* note 33, at 310-311. See also, *Application for BellSouth SC*, *supra* note 84, at para. 111 "we find that the evidence reasonably supports a conclusion that some of the competing carriers' errors were caused by Bell South's failure to provide business rule and other pertinent information." *Id.*

<sup>213</sup> *Application for BellSouth SC*, *supra* note 84, at para. 111.

<sup>214</sup> See also *In re Common Carrier Bureau Operations Support Systems Forum*, *supra* note 22, at 58. Technology and consumer demands will change over time and, as a result, there will be an ongoing process through which OSS problems are solved. *Id.*

<sup>215</sup> See *id.*

<sup>216</sup> See *supra* text accompanying notes 201-204.

<sup>217</sup> See *Comments of AT&T*, *supra* note 191 at 25. "Contractual remedies are usually based on a percentage of the ILEC's charges for specific network elements or services or related support functions, and are too low to provide an effective incentive for the ILECs to act in a nondiscriminatory manner." *Id.*

<sup>218</sup> See *In re Common Carrier Bureau Operations Support Systems Forum*, at 72. The local exchange as it currently exists does not resemble a normal commercial setting, instead it is comprised of a monopoly powerhouse and a collection of smaller players. *Id.*



If abstention were an effective approach, interconnection negotiations would provide CLECs with nondiscriminatory access to OSS. However, given the established need for performance measurements, benchmarks, and reporting requirements, this is not the case.<sup>219</sup>

## B. Monetary Penalties

Over time, the FCC's capacity to impose monetary penalties against ILECs<sup>220</sup> has not been an overly effective regulatory tool. As noted above, powerful ILECs are not as likely to be financially devastated by a financial penalty as would a CLEC. Indeed, past experiences prove that fines and forfeitures are institutionally difficult for the FCC to assess and only moderately deter non-competitive ILEC behavior.<sup>221</sup>

### 1. Recommendation for Monetary Penalties

Should the FCC decide to impose fines, however, it should create self-executing sanctions based on an ILEC's reports.<sup>222</sup> This approach may be bolstered by establishing additional fines for multiple or repeated failures. The FCC should also apply this approach against ILECs for submitting false or misleading data.<sup>223</sup>

## C. Injunctive Penalties

The FCC's authority under Section 271(d)(6)(iii) permits it to suspend or revoke a carrier's authority to offer in-region interLATA services.<sup>224</sup> While the scope of this authority is daunting, requiring a carrier to stop providing interLATA service to its customers would be an extreme measure.<sup>225</sup> For example, human resources devoted to planning, marketing, and administering an ILEC's in-region, interLATA

program would be susceptible to FCC injunctive authority.

### 1. Recommendation

Less intense measures exist. The FCC may allow the penalized ILEC to continue providing service to customers that are already signed up and receiving service, but remove an ILEC's authority to accept new orders for interLATA service.<sup>226</sup> The FCC may impose fines for initial violations, but then implement a sliding scale of fines and injunctive relief with repeated violations. For example, discriminatory OSS access over a two month period may only result in fines.

If such problems persist, however, the fines may increase in quantity, and eventually may be combined with less restrictive injunctive relief, like halting the signing up of new customers. Should the problem continue, more stringent injunctions may be imposed. Where discrimination is endemic, 271 authority should eventually be rescinded.<sup>227</sup>

## CONCLUSION:

Before and during the reign of the Modified Final Judgment, little was heard about the potential for competition in the local exchange. The rapid expansion of the market for long distance services demonstrated just how profitable competition can be for carriers and consumers alike. With the passage of time, the local exchange became seen as the next untapped source for a boom in telecommunications. The passage of the Telecommunications Act of 1996 broke down the monopolistic local services market and intended to open it up to competition.

The Act essentially removed the barriers to en-

<sup>219</sup> See *Comments of ALTS*, to the *Request for Comments* in DA No. 97-1211, at ii. The only local competition will materialize is by establishing performance measurements, performance standards, and remedies. Compare *Comments of GTE*, to the *Request for Comments* in DA No. 97-1211, at 6-7 (July 10, 1997). ILECs are contractually obligated to meet interconnection standards, and if not are liable for substantial monetary damages. *Id.*

<sup>220</sup> See 47 U.S.C. § 208 (1994). See generally 47 U.S.C. § 501-503 (1994).

<sup>221</sup> See *Comments of ALTS*, *supra* note 98 at 16.

<sup>222</sup> See *Comments of AT&T*, *supra* note 191 at 26.

<sup>223</sup> See *id.* See also 47 U.S.C. § 503(b) (1994). FCC is authorized to levy against common carriers fines of up to

\$100,000 per day for "willfully or repeatedly" violate the Act or other relevant regulations. *Id.*

<sup>224</sup> See 47 U.S.C. § 271(d)(6)(iii) (West Supp. 1998). See also 47 U.S.C. § 312 (1994). See also 47 U.S.C. § 154(i) (1994). Allowing the FCC to enjoin non-BOCs from regulated activities. *Id.*

<sup>225</sup> See *Comments of CPI*, *supra* note 166, at 5-6. It is not in the public interest to require the BOC to cease providing interLATA services once it has obtained customers. *Id.*

<sup>226</sup> See *Comments of ALTS*, *supra* note 98, at 16. See *Comments of CPI*, *supra* note 160, at 12. Another reasonable injunctive measure would be stopping the specific BOC from marketing interLATA services to new customers. *Id.*

<sup>227</sup> See *Comments of ALTS*, *supra* note 98, at 16.

try into the local telecommunications markets.<sup>228</sup> Since then \$14 billion has been invested in CLECs, 2400 interconnection agreements have been signed, and the combined local exchange market is now valued at over \$20 billion dollars.<sup>229</sup> However, that does not mean that local competition is as profitable or ubiquitous as it should be.

OSS remains one major reason why local competition has not fully bloomed. ILECs are required by the Act to provide nondiscriminatory access to their OSS. Unfortunately, because of network design and anti-competitive business practices, CLECs have yet to gain the access they require to compete effectively.

Discriminatory OSS access is hindering CLECs ability to compete in the local exchange. CLECs cannot access customer service records to perform the pre-ordering necessary to market services to customers. There are debilitating delays involved with obtaining ILEC responses to CLEC service orders. Even where services are properly ordered, ILEC-supplied manual and automated OSS substantially delay the provisioning process. ILECs are also guilty of not attending to CLEC requests for network maintenance as quickly as they do for their own services. Nor are CLECs receiving accurate billing records in a timely fashion.

The FCC must become involved in resolving these problems. It must require ILECs to measure all OSS services for resale and UNEs. It must also provide a reasonable set of default benchmarks against which ILEC performance measurements are compared. Secondly, the FCC must require interim and then monthly reporting requirements for monitoring ILEC compliance with OSS service obligations. Lastly, where ILEC compliance is not provided, the FCC must penalize ILECs via a combination of monetary and injunctive relief.

The local exchange is not the only sector of the communications industry experiencing massive growth. Satellite deregulation, the implementation of the World Trade Organization's Agreement on Basic Telecommunications Services, wireless, and Direct Broadcast Satellite are all major reasons for the communications industry's outstanding growth. The FCC should continue to seize upon this pro-competitive tendency and ensure that CLECs have the nondiscriminatory OSS access they need to successfully provide competitive local services.

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<sup>228</sup> *Press Statement of Chairman William E. Kennard on the Second Anniversary of the Telecom Act of 1996* (Jan. 30, 1998) <<http://www.fcc.gov/Speeches/Kennard/Statements/>

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[stwek804.html](#)>.

<sup>229</sup> *See id.*